

Client's Ref: A00154
FILE: 0611-6122US/Final
Date: 90-10-30/Jasper/Kevin Smith



What is claimed is:

1 1. A method of manufacturing a liquid crystal display panel,
2 comprising the steps of:
3 forming a plurality of pixels on a first substrate;
4 forming a plurality of micro cell structures on the first
5 substrate, wherein each micro cell structure surrounds at least
6 one pixel;
7 forming a first alignment layer on the first substrate;
8 providing the micro cell structures with a liquid crystal
9 utilizing Ink Jet Printing technology; and
10 combining the first substrate with a second substrate by a
11 sealing member.

1 2. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 1, wherein the pixel comprises a data line
3 and a gate line.

1 3. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 2, further comprising the steps of:
3 forming a photoresist layer on the first substrate; and
4 forming the micro cell structures on the data lines and the
5 gate lines by carrying out the photolithography on the
6 photoresist layer.

1 4. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 3, wherein all the micro cell structures have
3 the same height by planarization.

1 5. A method of manufacturing a liquid crystal display panel

Client's Ref: A00154
 FILE: 0611-6122US/Final
 Date: 90-10-30/Jasper/Kevin Smith



2 as claimed in claim 3, further comprising a step of: forming a
 3 color filter and a second alignment layer on the second substrate.

1 6. A method of manufacturing a liquid crystal display panel
 2 as claimed in claim 1, wherein each pixel comprises a color filter
 3 and a black matrix surrounding the pixel.

1 7. A method of manufacturing a liquid crystal display panel
 2 as claimed in claim 6, further comprising the steps of:
 3 forming a photoresist layer on the first substrate; and
 4 forming the micro cell structures covering the black matrix
 5 by carrying out the photolithography on the photoresist layer.

1 8. A method of manufacturing a liquid crystal display panel
 2 as claimed in claim 7, wherein all the micro cell structures have
 3 the same height by planarization.

1 9. A method of manufacturing a liquid crystal display panel
 2 as claimed in claim 7, further comprising a step of: forming a
 3 plurality of pixels and a second alignment layer on the second
 4 substrate, wherein each pixel has a data line and a gate line.

1 10. A method of manufacturing a liquid crystal display panel
 2 as claimed in claim 1, wherein the adjacent micro cell structures
 3 are connected by a passage.

1 11. A method of manufacturing a liquid crystal display panel
 2 as claimed in claim 1, wherein the Ink Jet Printing technology
 3 is a thermal bubble type Ink Jet Printing technology.

Client's Ref: A00154
FILE: 0611-6122US/Final
Date: 90-10-30/Jasper/Kevin Smith



1 12. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 1, wherein the Ink Jet Printing technology
3 is a micro piezoelectric type Ink Jet Printing technology.

1 13. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 1, wherein the sealing member is prepared
3 before injecting the liquid crystal into the micro cell
4 structures.

1 14. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 1, wherein the sealing member is prepared
3 after injecting the liquid crystal into the micro cell
4 structures.

1 15. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 1, wherein the sealing member is prepared when
3 the liquid crystal is injected into the micro cell structures.

1 16. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 1, further comprising a step of: forming a
3 trench between the sealing member and the micro cell structures.

1 17. A method of manufacturing a liquid crystal display panel
2 as claimed in claim 1, further comprising the steps of:
3 providing the liquid crystal within the micro cell
4 structures at the condition of normal air pressure; and
5 combining the first and second substrates together at the
6 condition of vacuum.

1 18. A method of manufacturing a liquid crystal display panel

Client's Ref: A00154
FILE: 0611-6122US/Final
Date: 90-10-30/Jasper/Kevin Smith



2 as claimed in claim 1, further comprising the steps of:
3 providing the liquid crystal within the micro cell
4 structures at the condition of vacuum; and
5 combining the first and second substrates together at the
6 condition of normal air pressure.